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Nakata

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(54) **RECORDING DEVICE**

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B41J 29/377 (2006.01)

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CPC ***B41J 2/215*** (2013.01); ***B41J 2/1714*** (2013.01); ***B41J 29/377*** (2013.01)

(58) **Field of Classification Search**
CPC B41J 2/1714; B41J 2/18; B41J 2/08; B41J 2/16517; B41J 2/215; B41J 29/377
USPC 347/34
See application file for complete search history.

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Primary Examiner — Matthew Luu
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(57) **ABSTRACT**

A recording device includes a base body, an air current generator that is disposed in the base body, and a duct that has an opening and configures an air current flow path formed from the opening to the air current generator. The duct is attachable to and detachable from the base body.

6 Claims, 19 Drawing Sheets

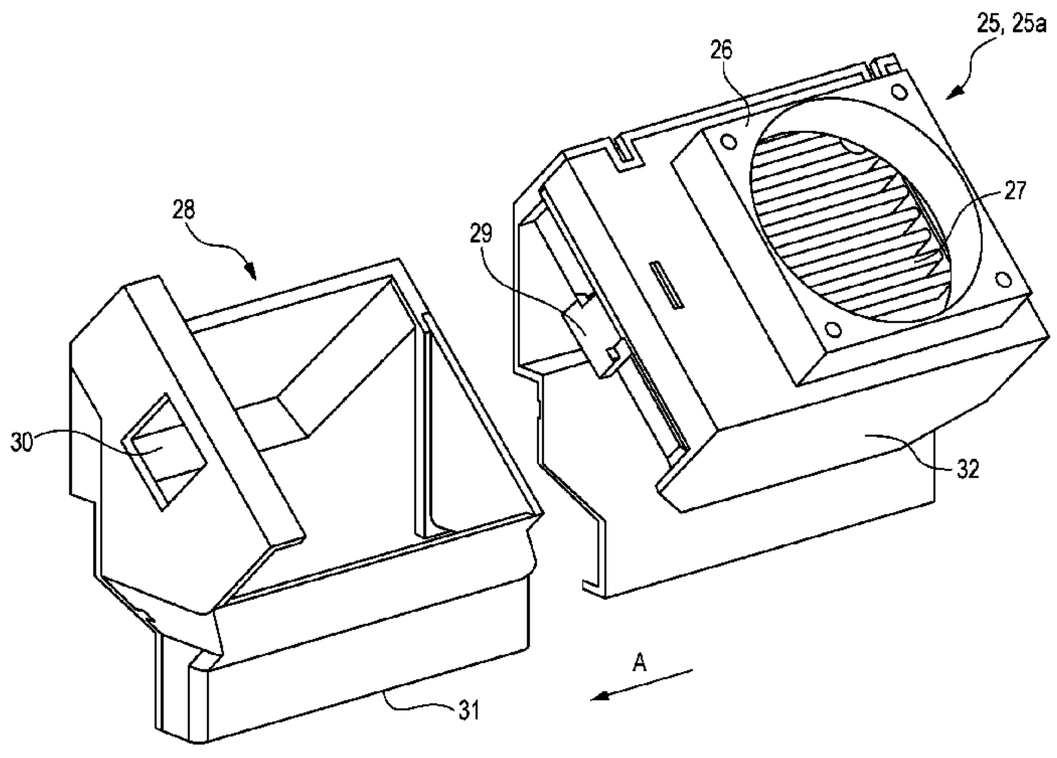

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FIG. 1

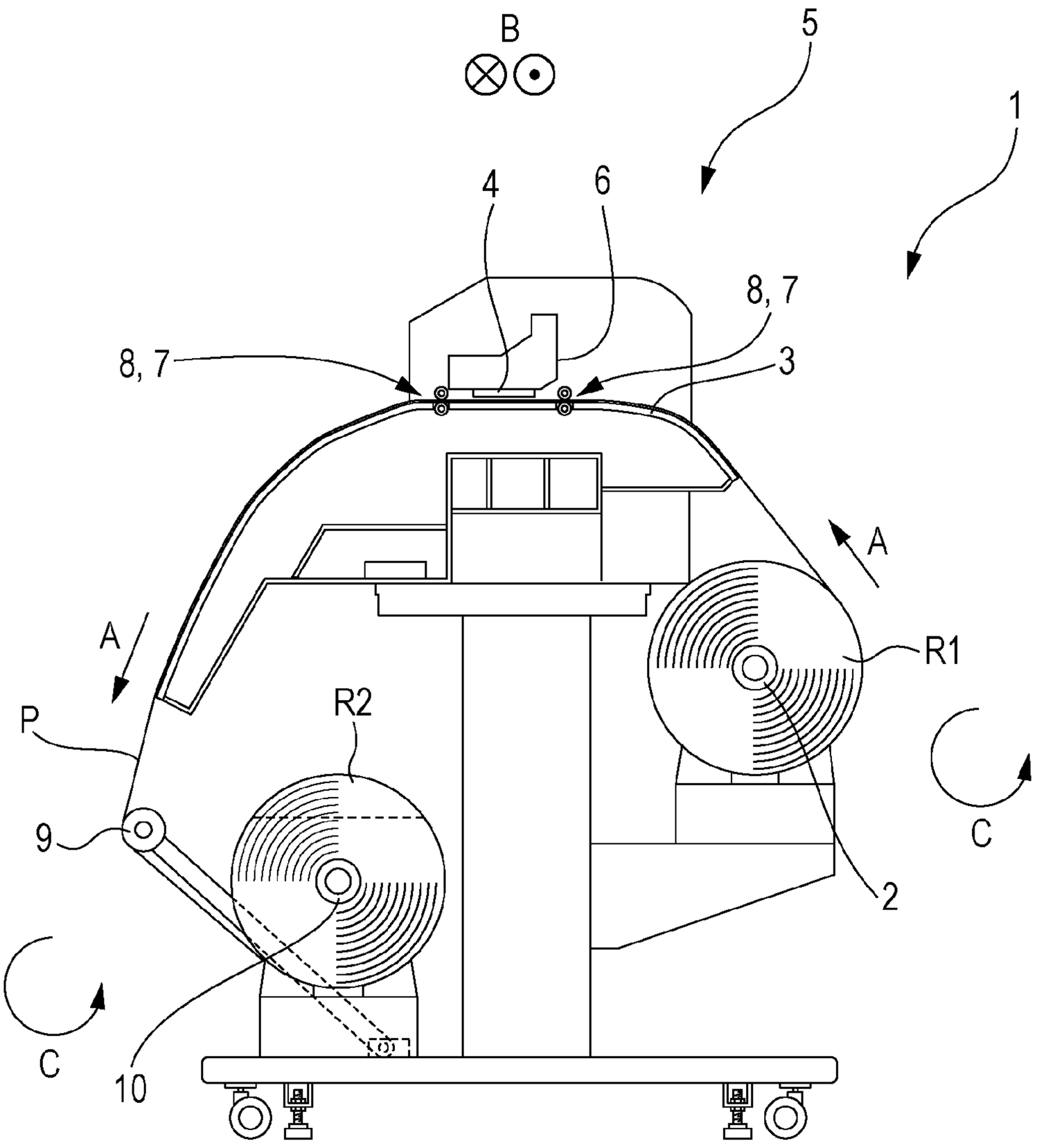


FIG. 2

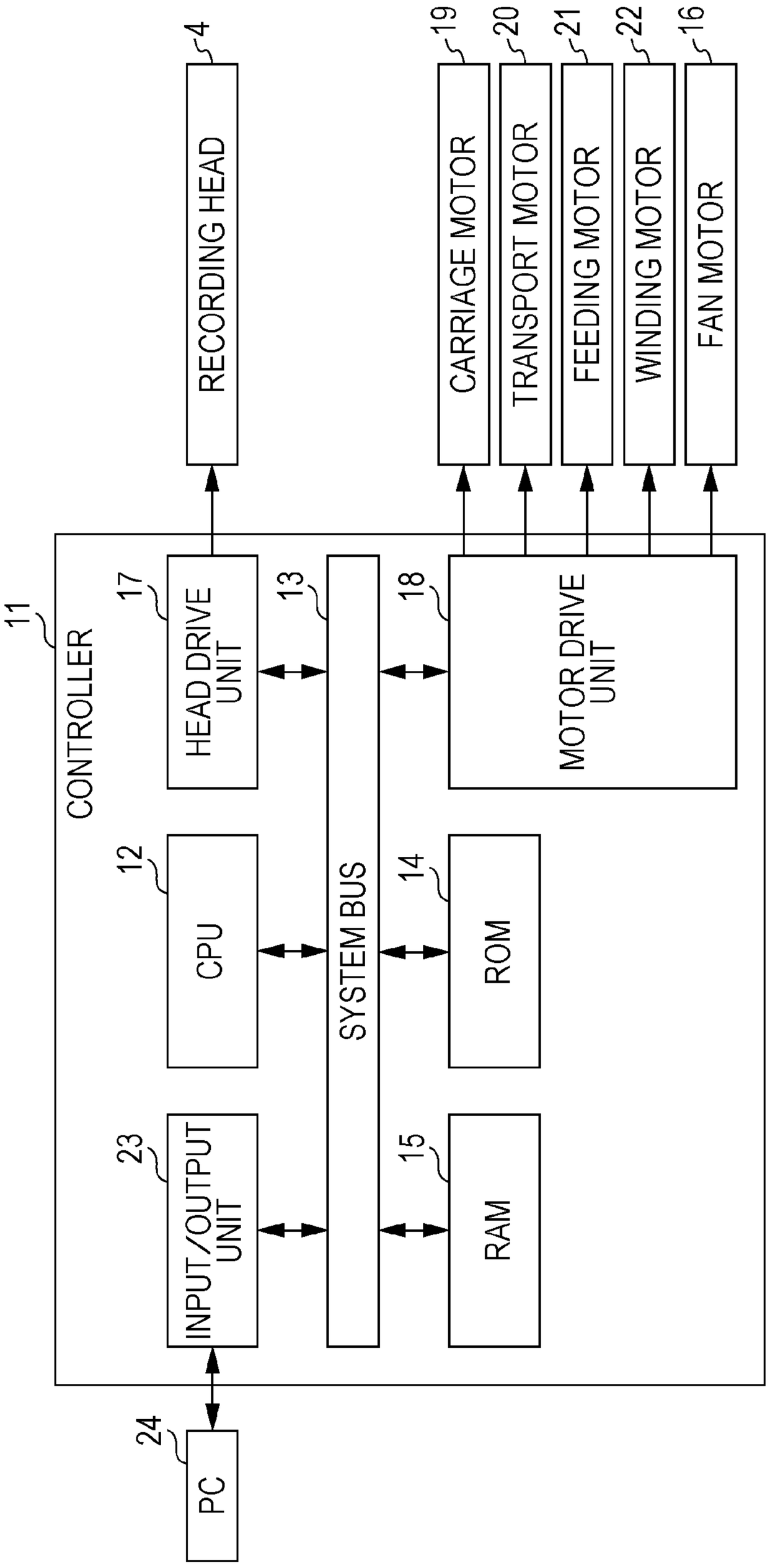

RECORDING HEAD
4
CARRIAGE MOTOR
19
TRANSPORT MOTOR
20
FEEDING MOTOR
21
WINDING MOTOR
22
FAN MOTOR
16
CONTROLLER
11
HEAD DRIVE UNIT
17
13
18
MOTOR DRIVE UNIT
CPU
12
SYSTEM BUS
14
ROM
INPUT/OUTPUT UNIT
23
15
RAM
PC
24

FIG. 3

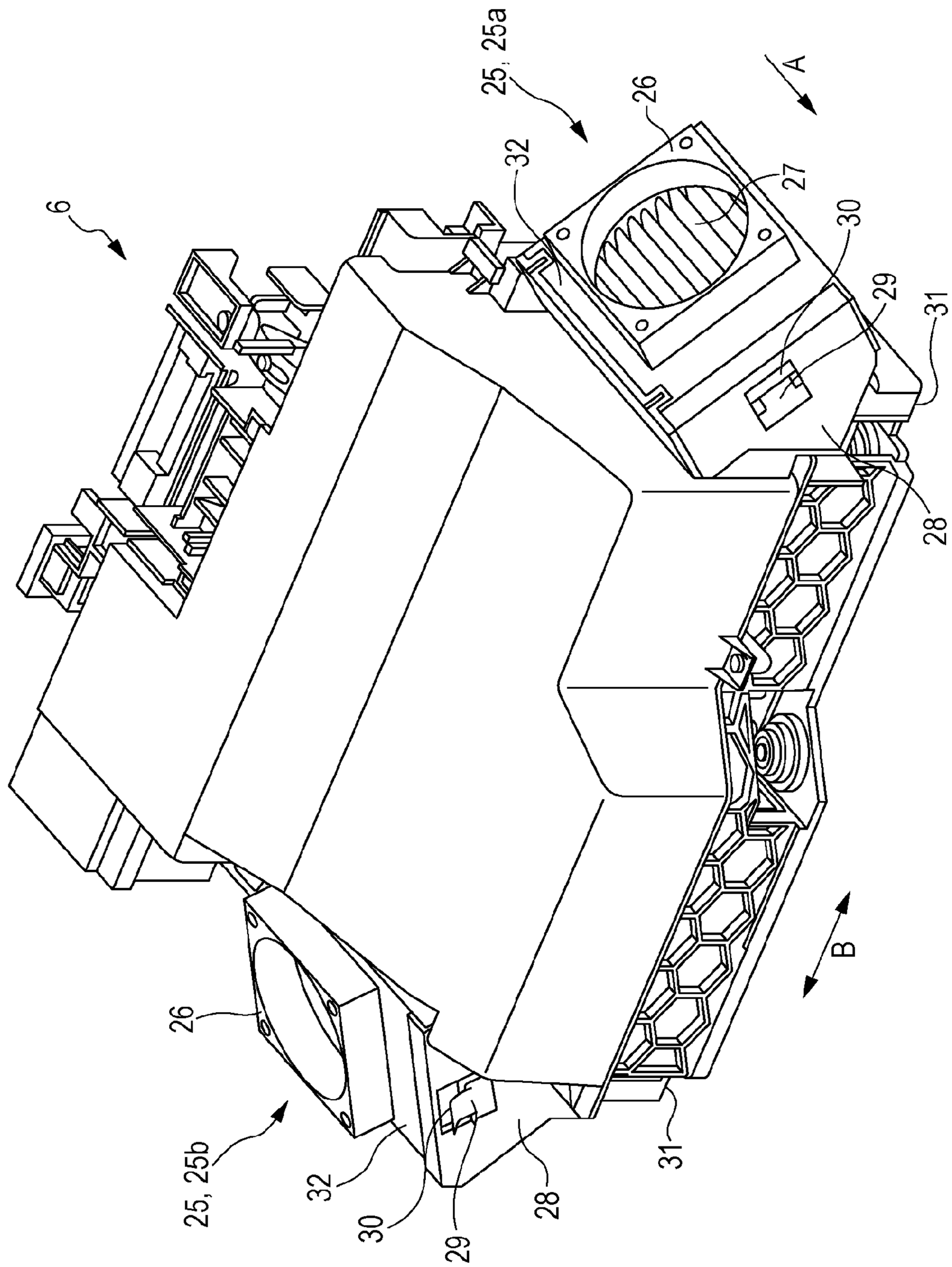
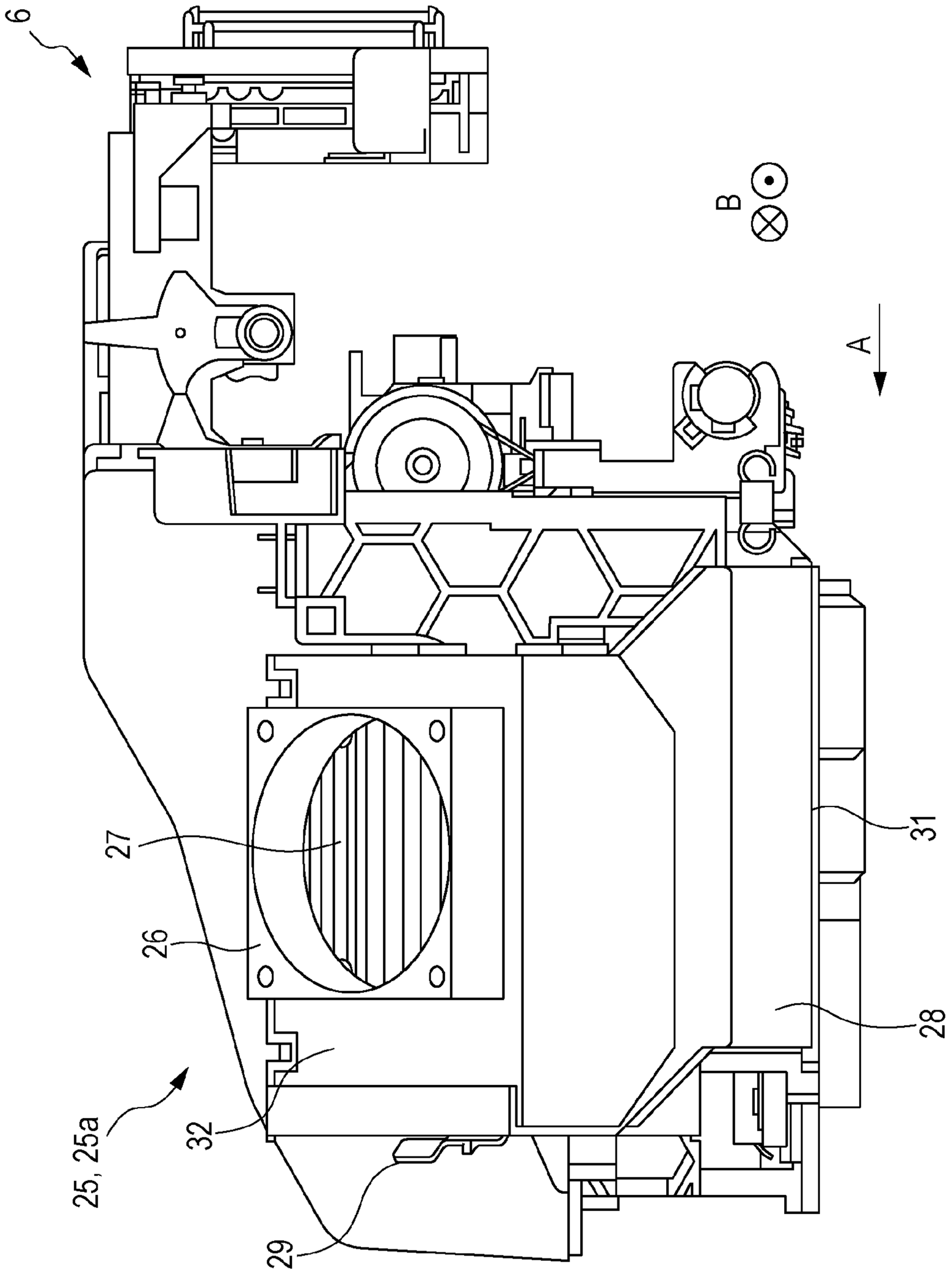


FIG. 4



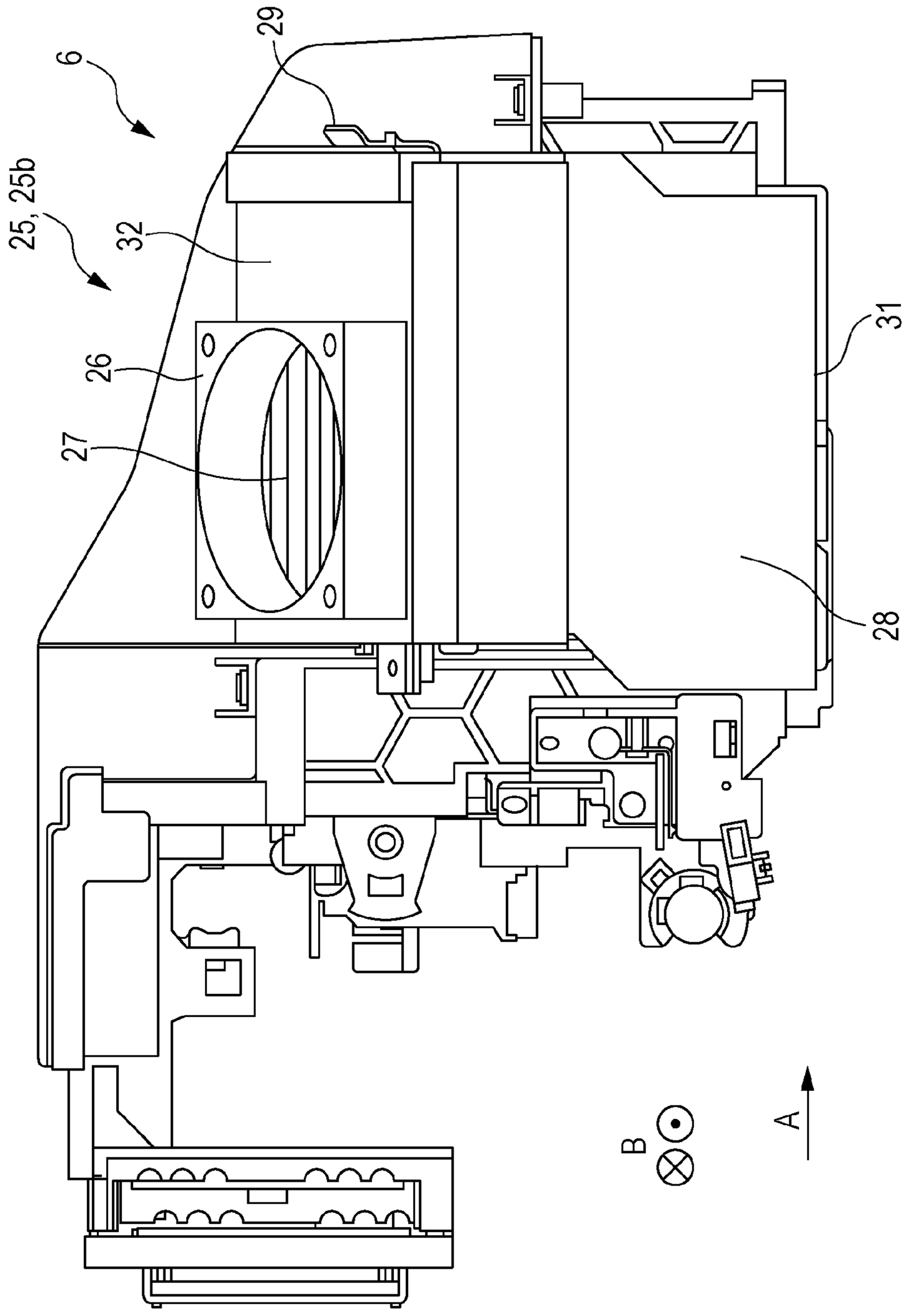


FIG. 5

FIG. 6

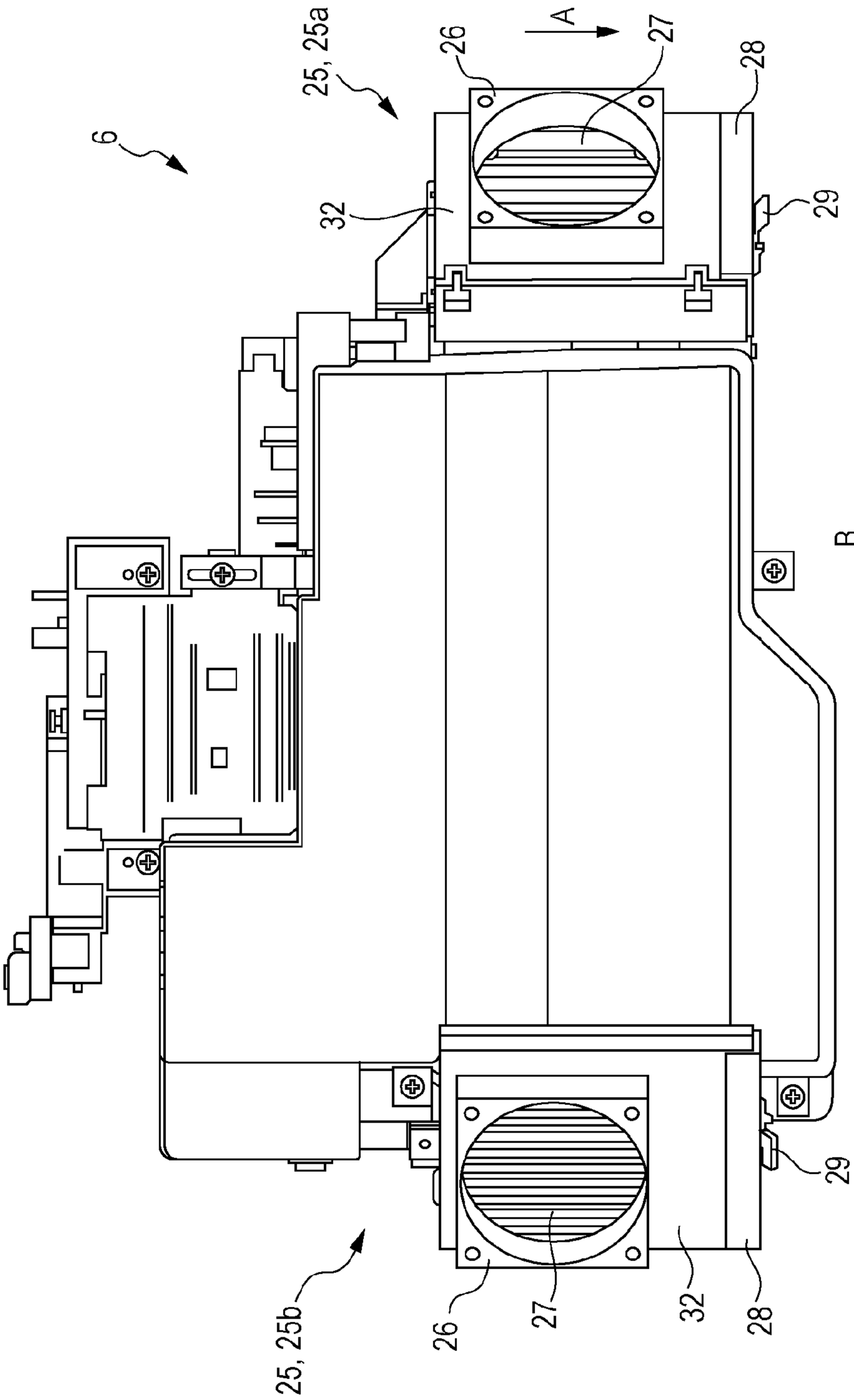


FIG. 7

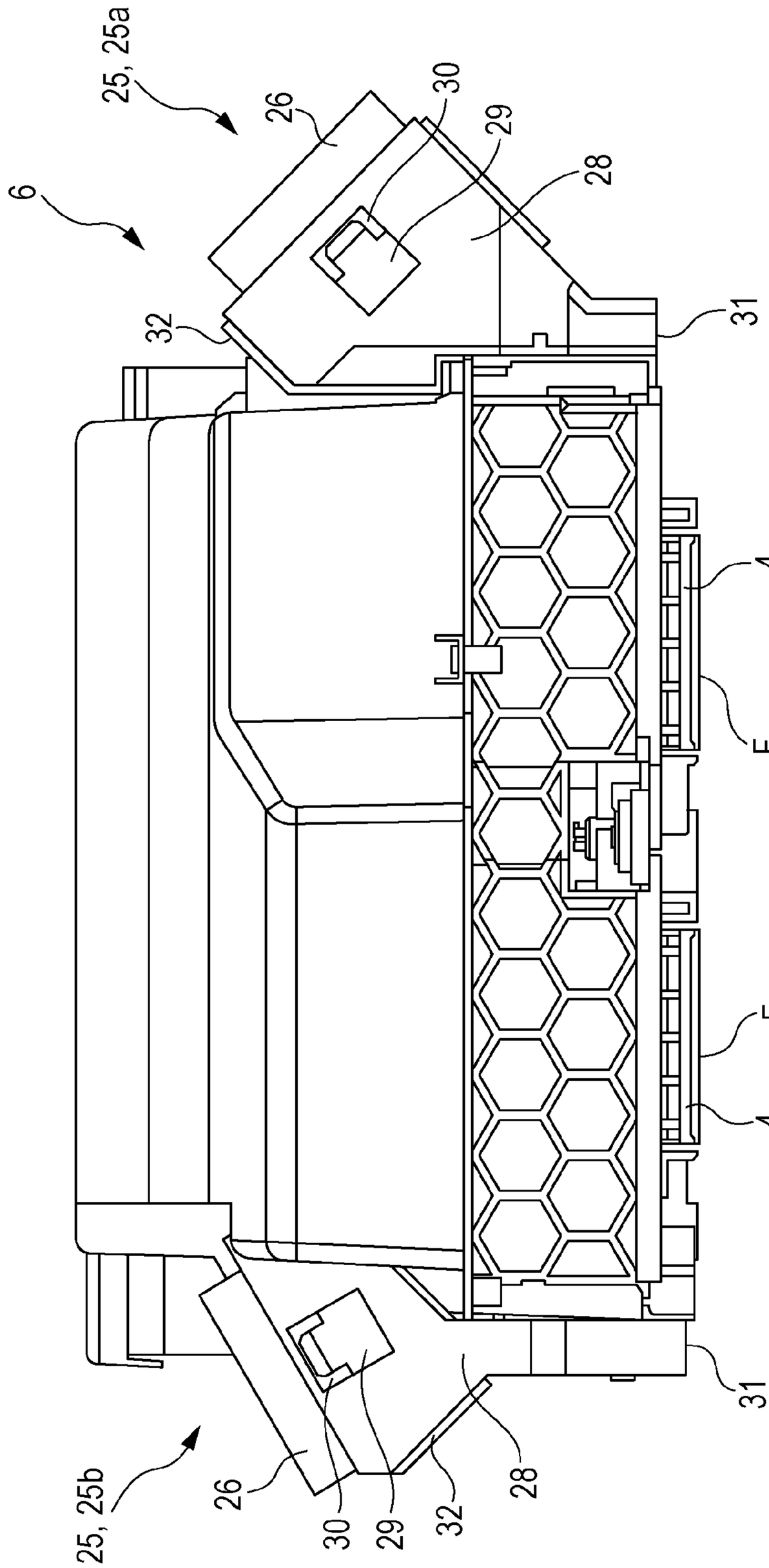


FIG. 8

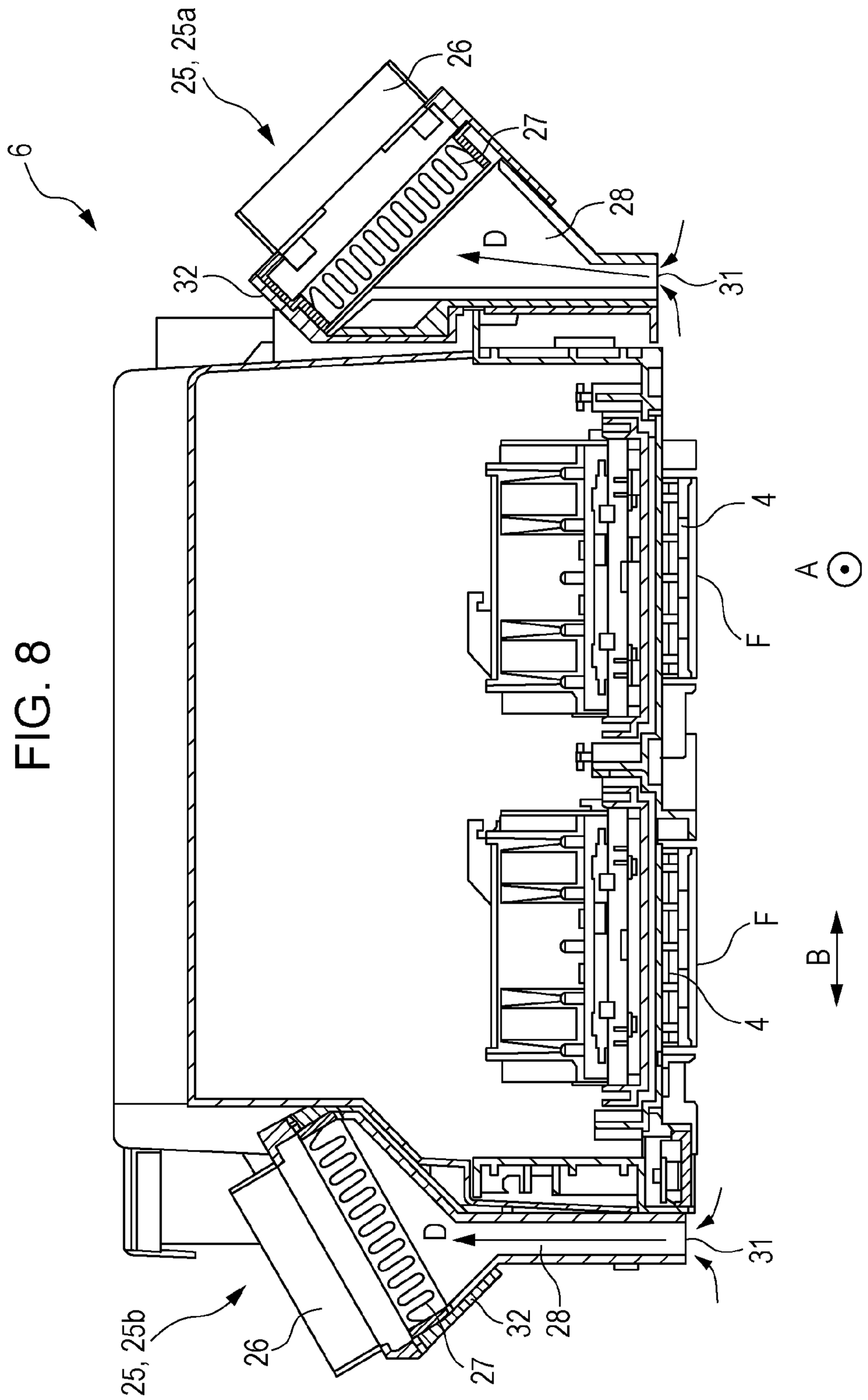
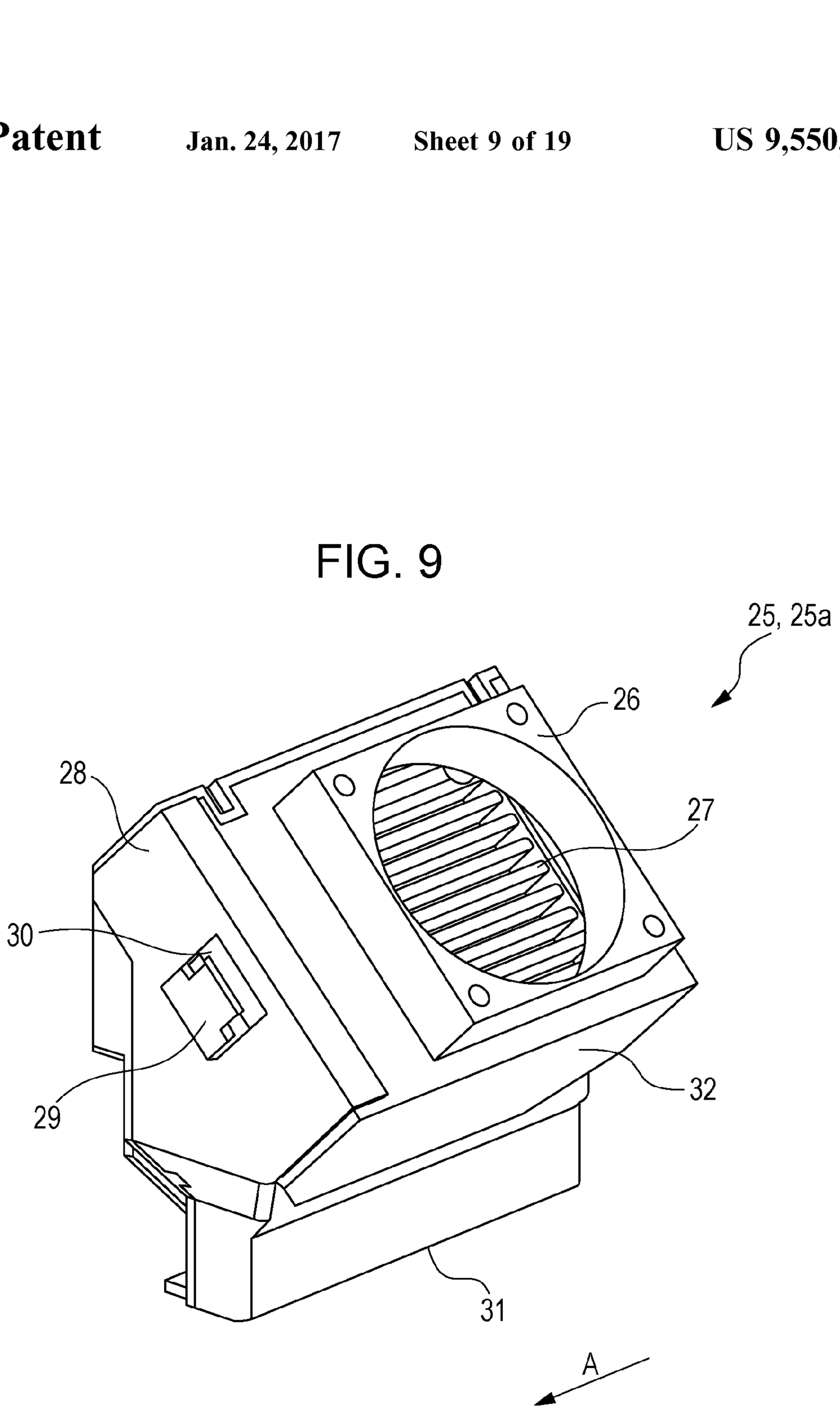


FIG. 9



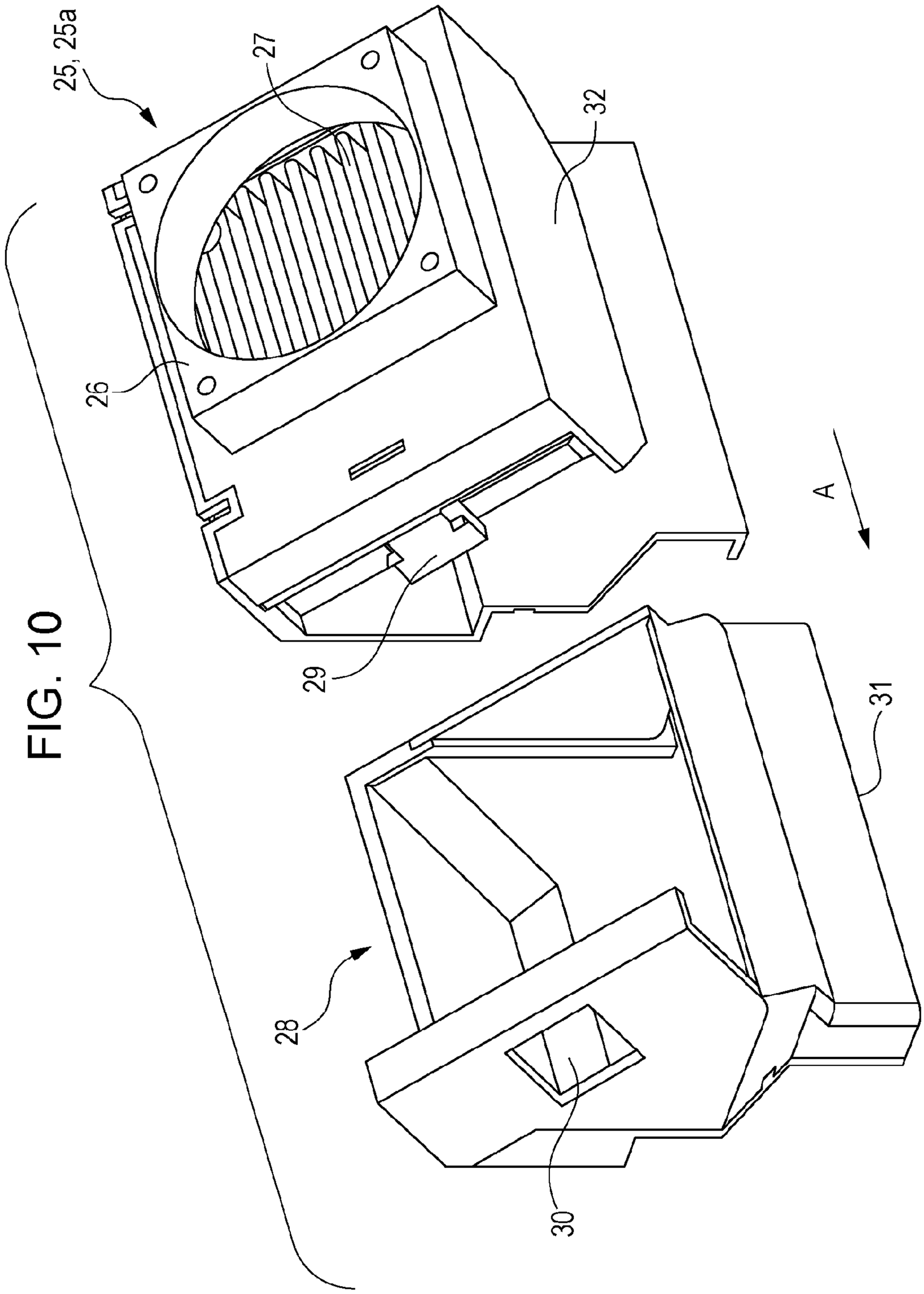


FIG. 10

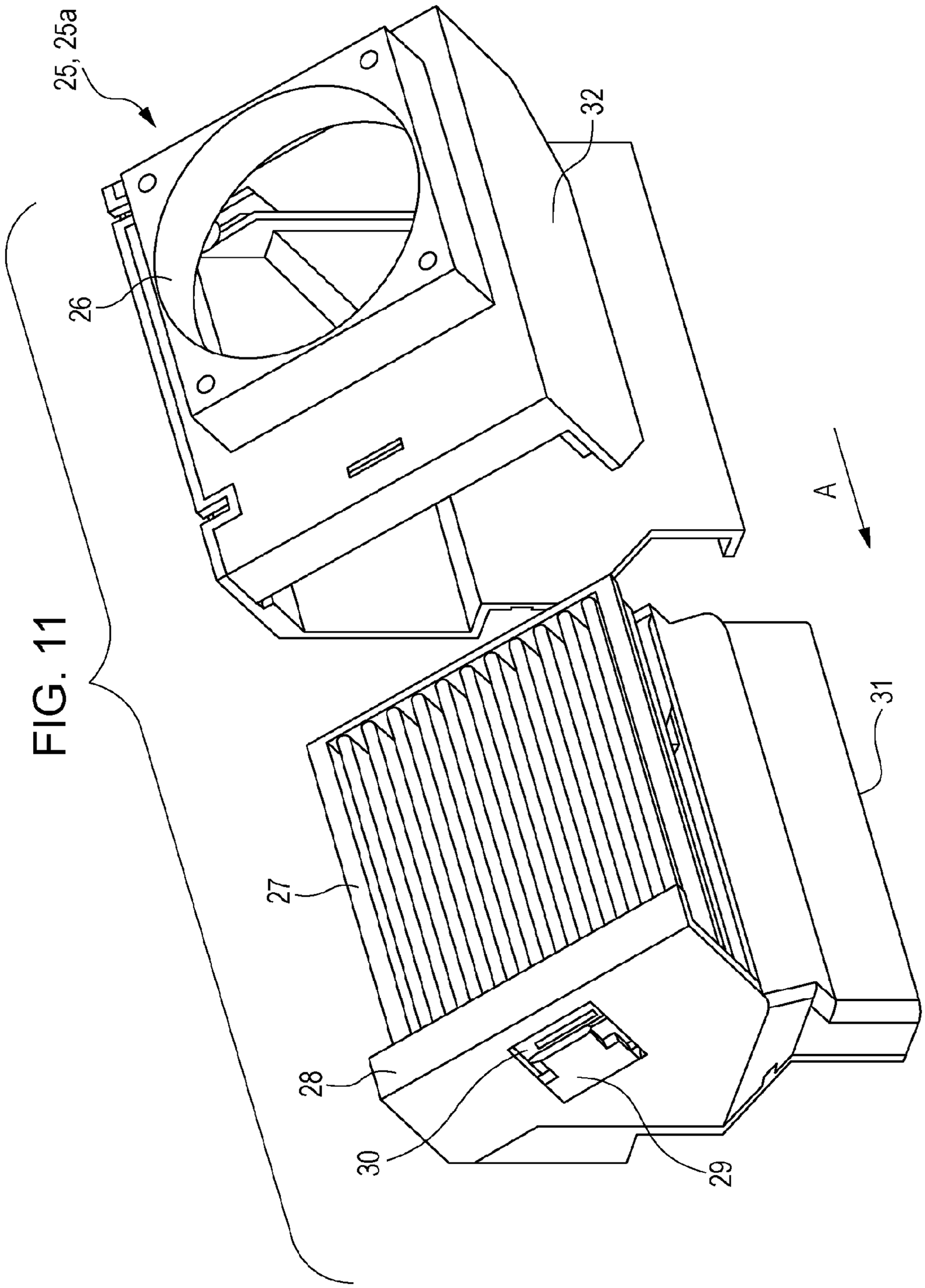


FIG. 11

FIG. 12

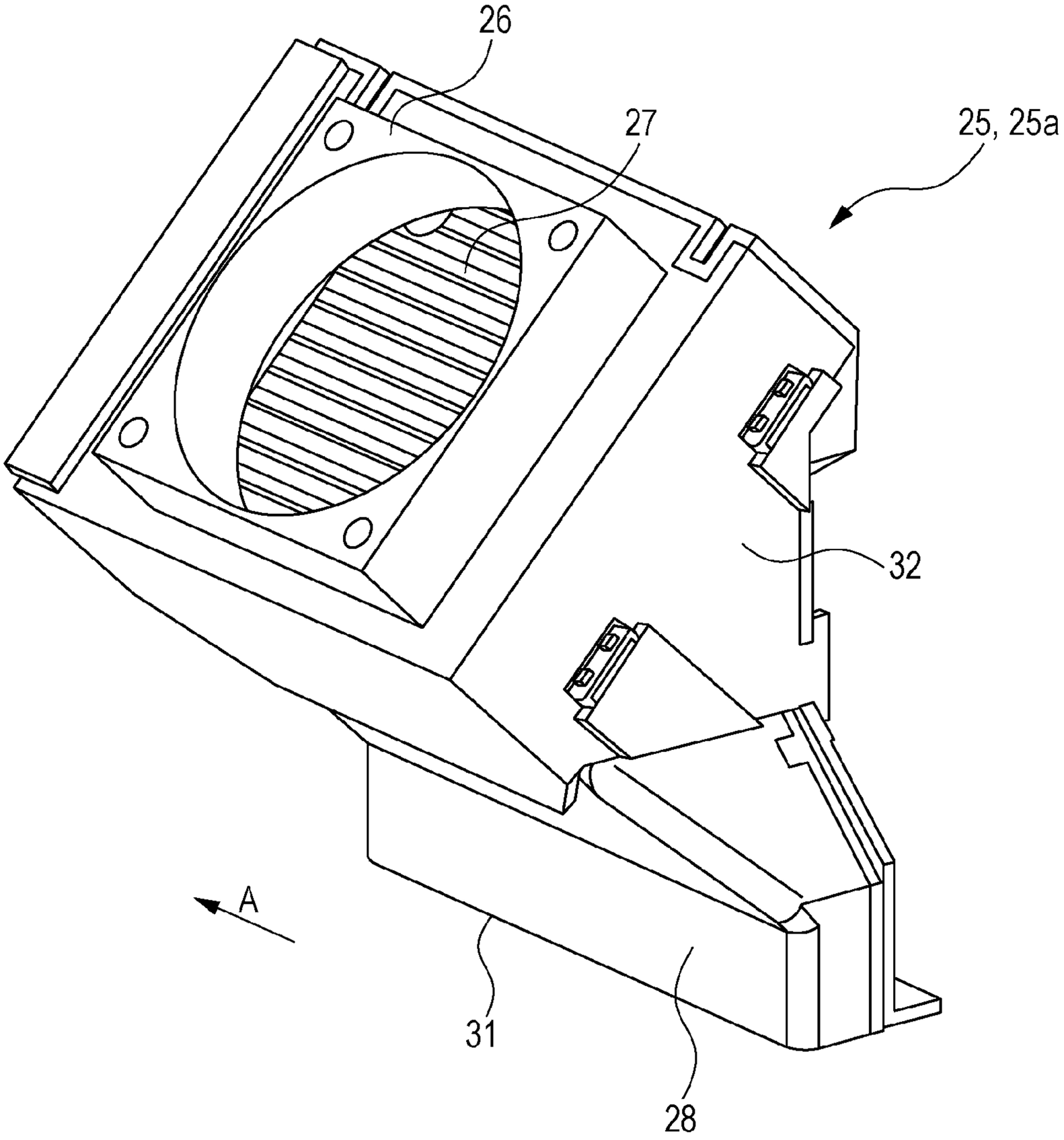


FIG. 13

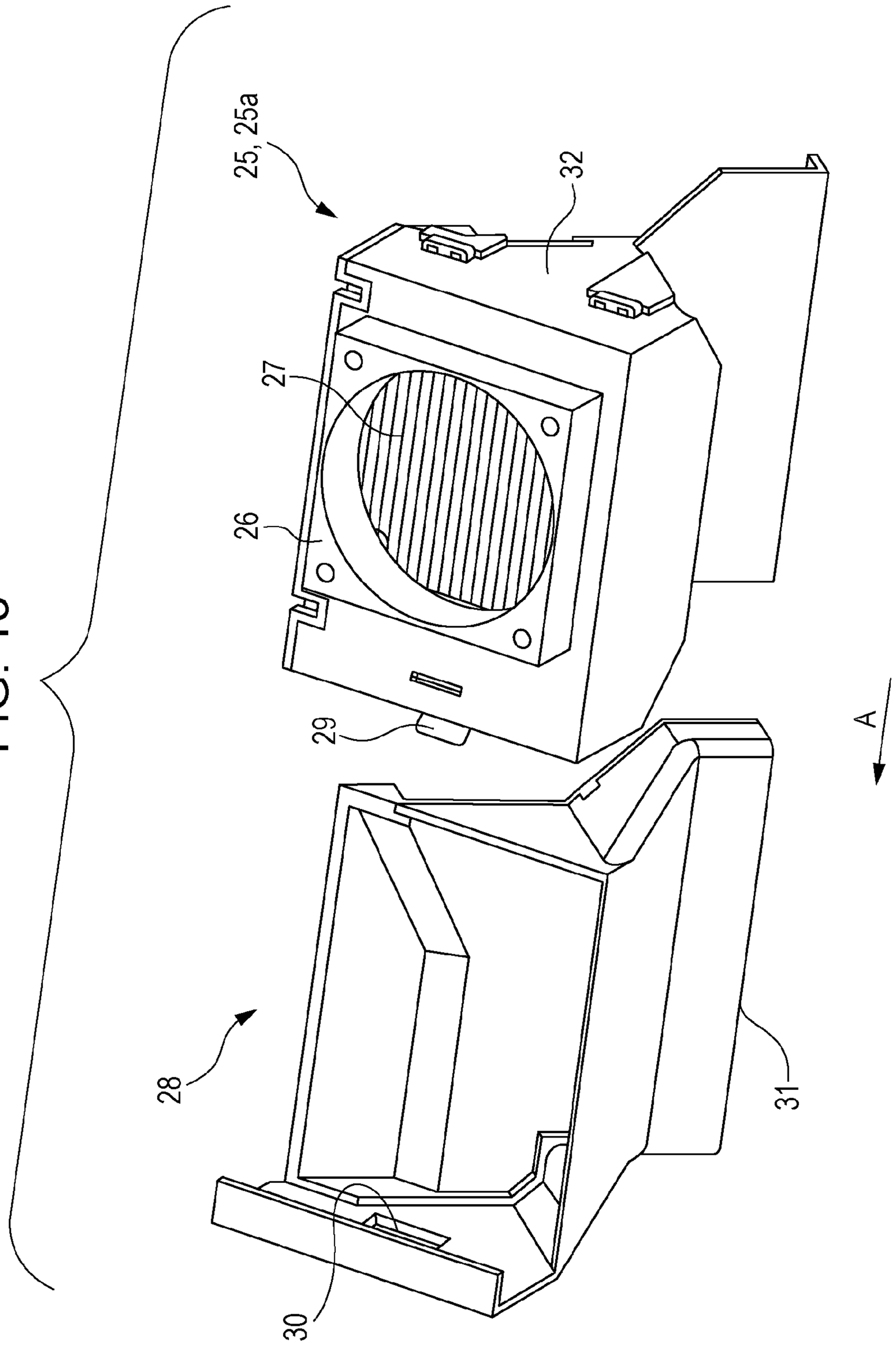


FIG. 14

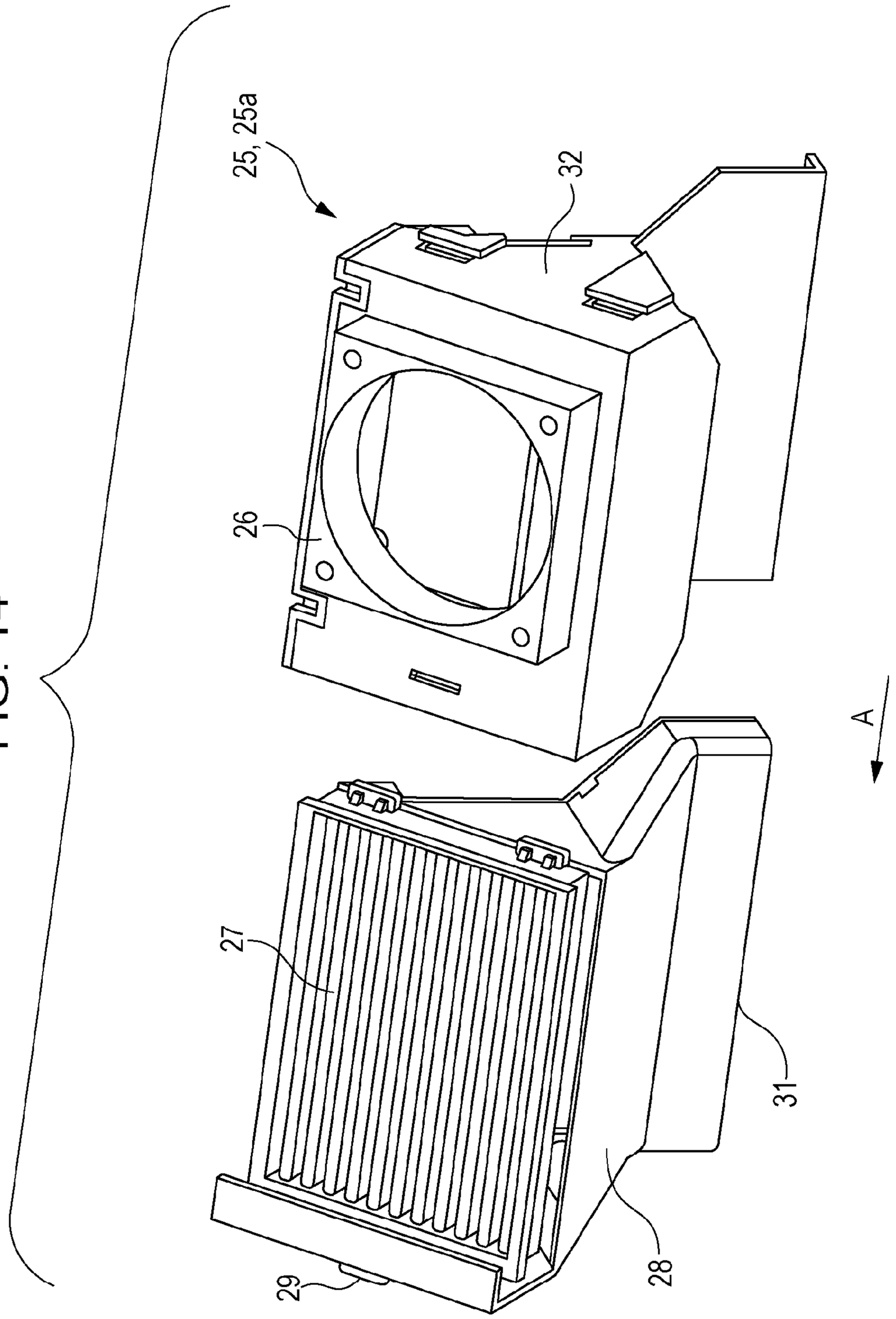


FIG. 15

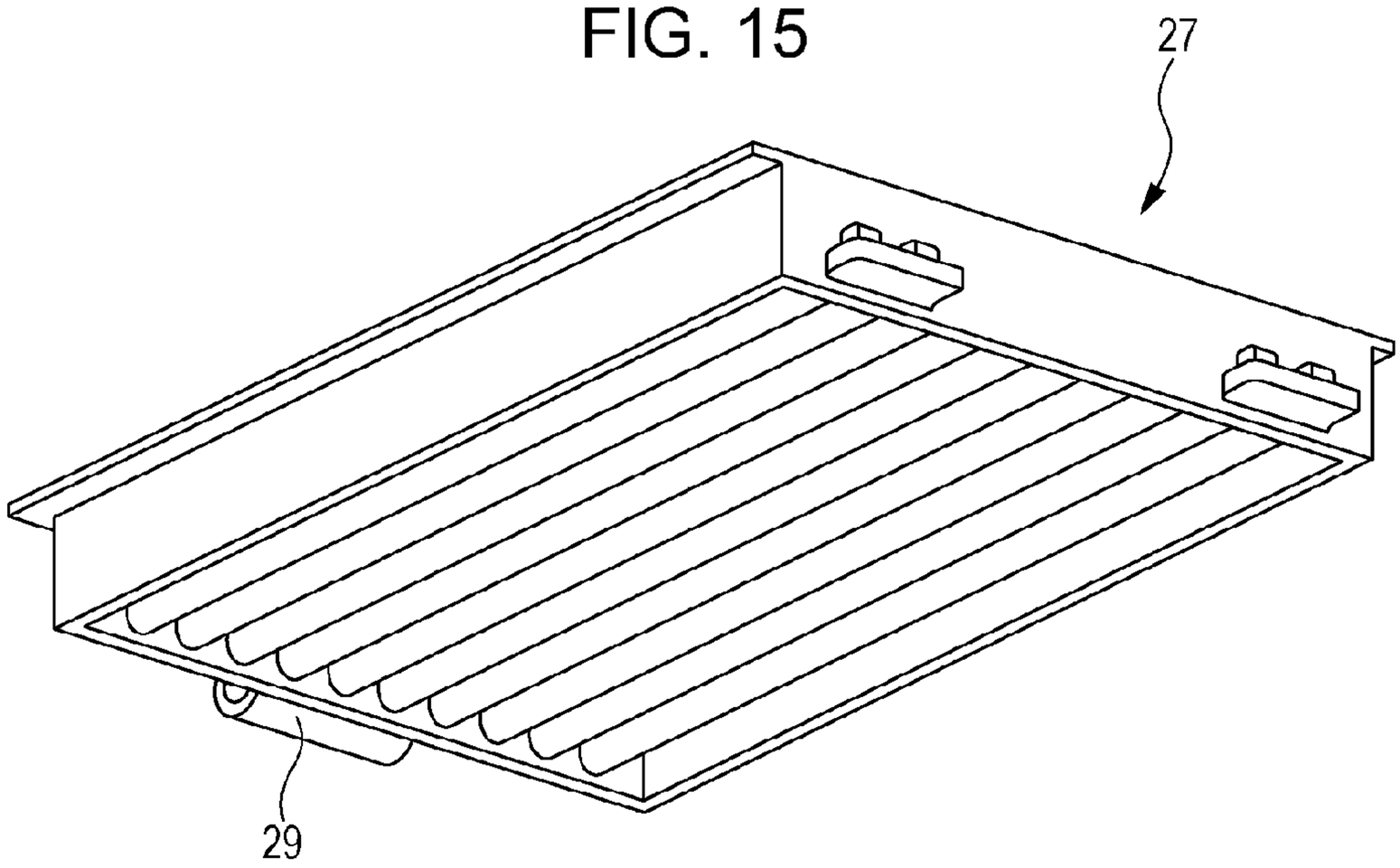


FIG. 16

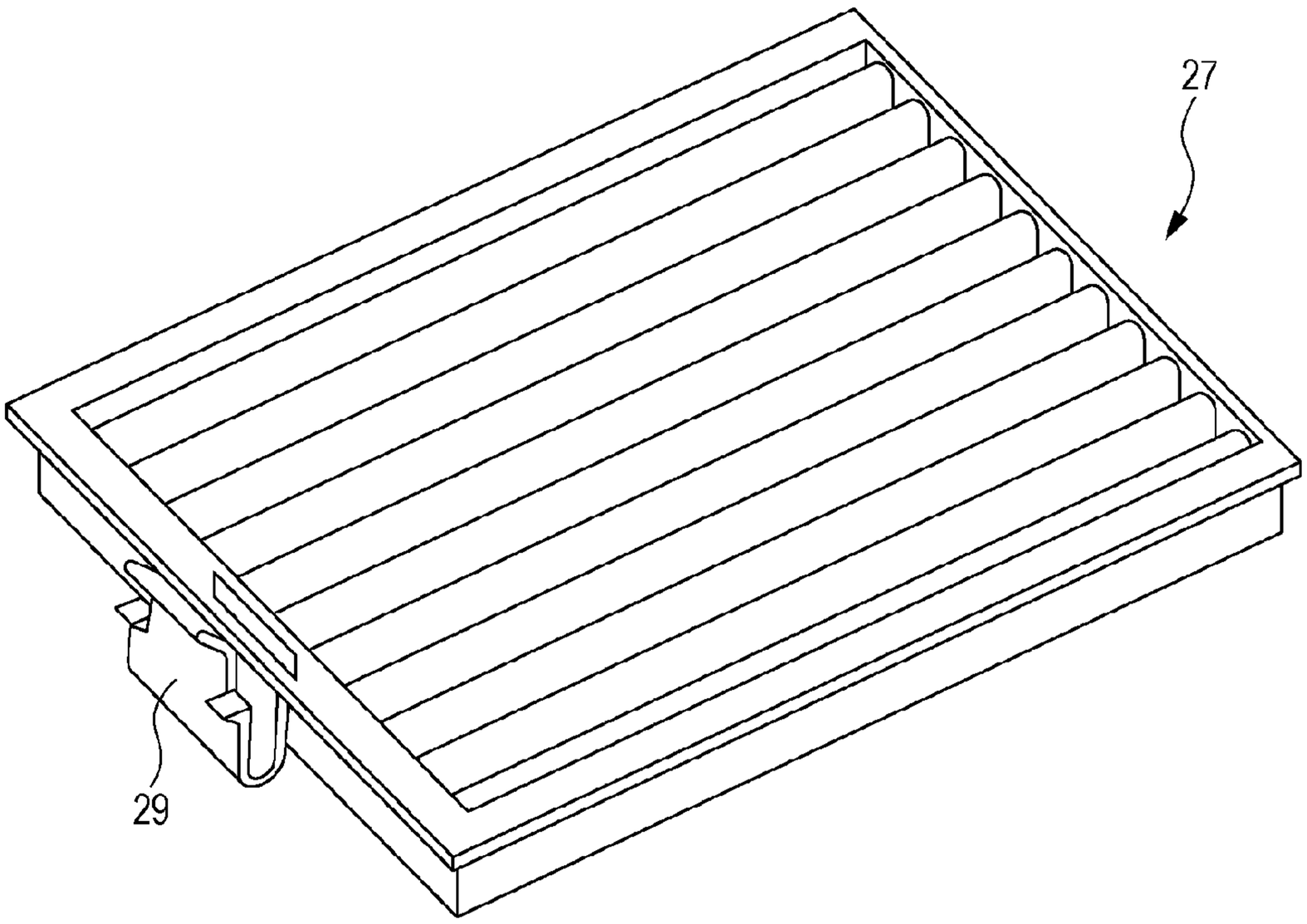


FIG. 17

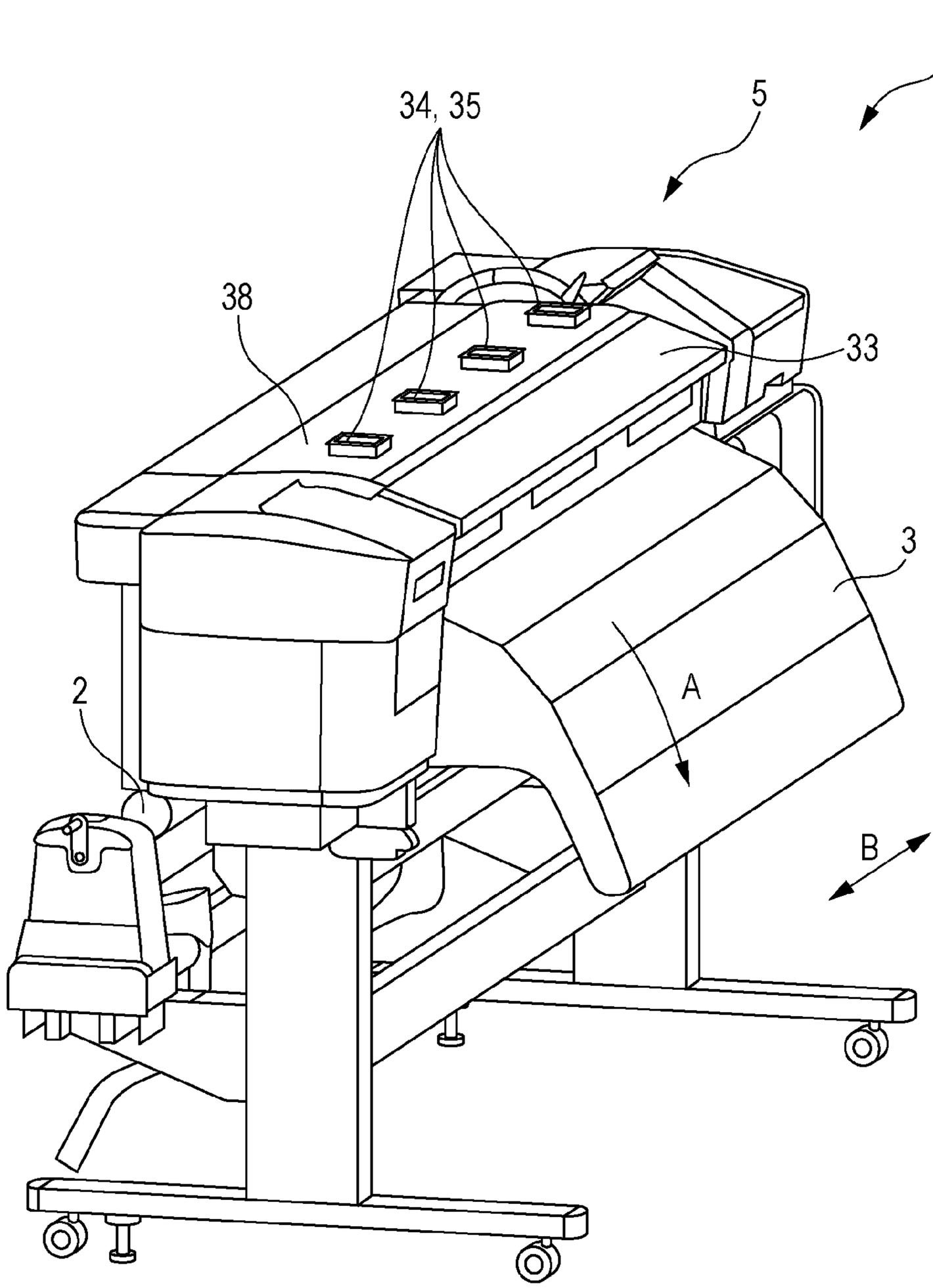


FIG. 18

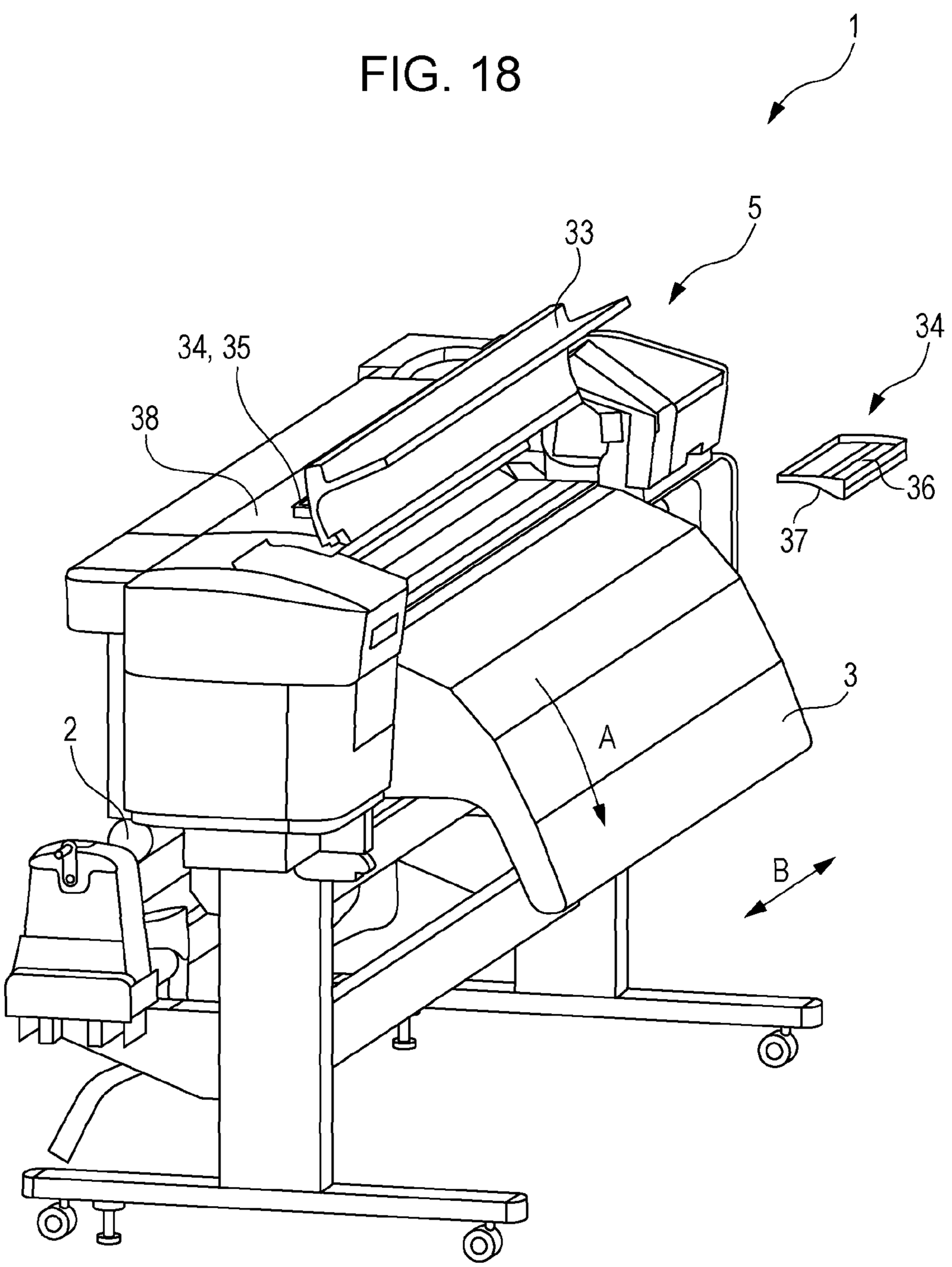


FIG. 19

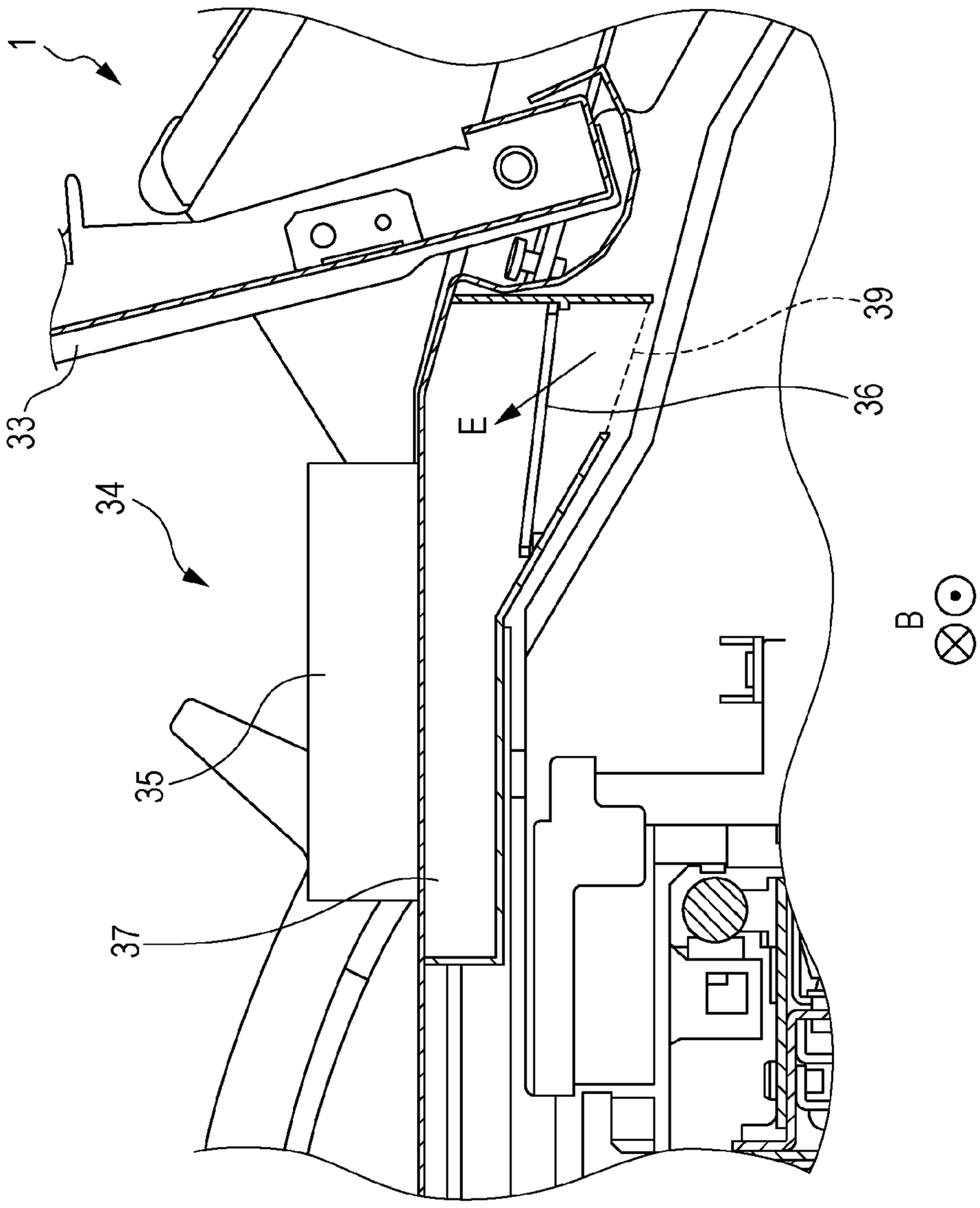


FIG. 20A

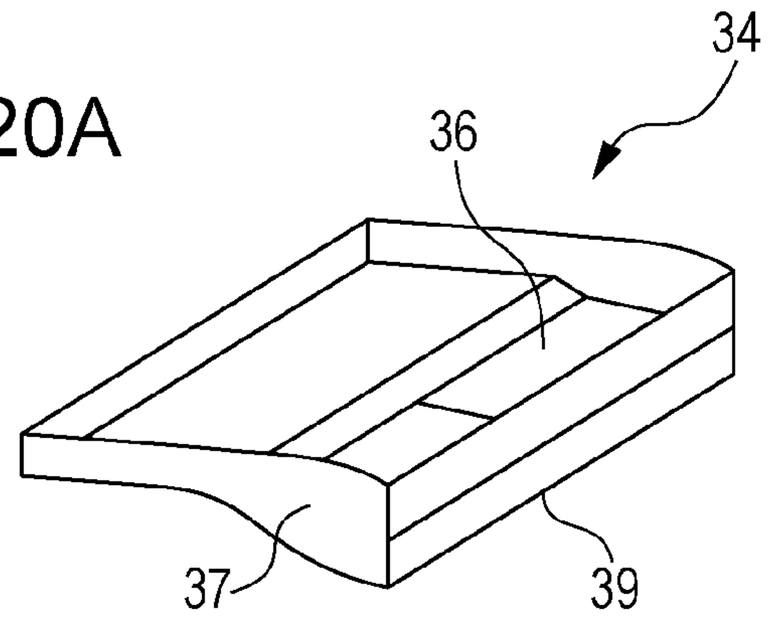


FIG. 20B

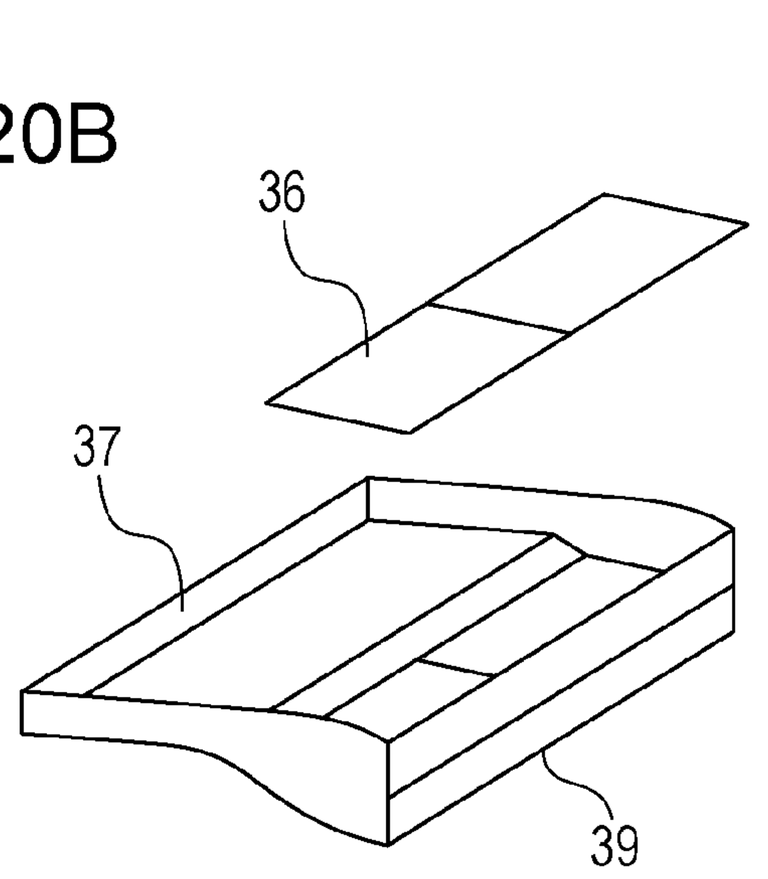
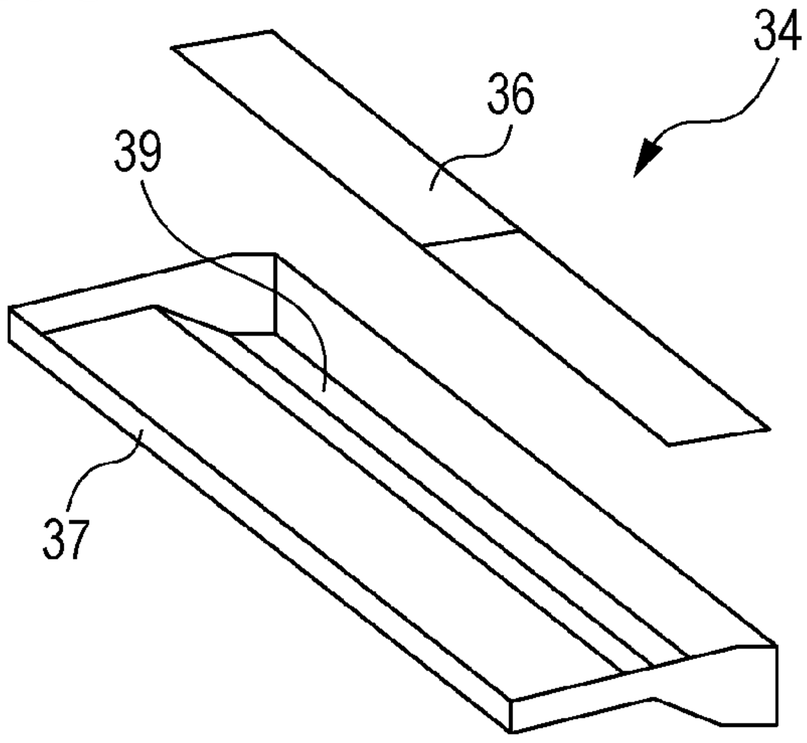


FIG. 20C



RECORDING DEVICE

BACKGROUND

1. Technical Field

The present invention relates to a recording device.

2. Related Art

In the related art, a recording device has been used which includes an air current generator for moving foreign substances such as ink mist. For example, JP-A-2010-58441 and U.S. Pat. No. 5,774,141 disclose a recording device which includes a duct configuring a flow path for air current and a filter for capturing foreign substances such as ink mist.

However, in the recording device of the related art which has the air current generator, the duct, and the filter as disclosed in JP-A-2010-58441 and U.S. Pat. No. 5,774,141, in some cases, the foreign substances such as the ink mist are accumulated not only in the filter but also inside the duct, and the foreign substances accumulated inside the duct fall and adhere to a recording medium, thereby causing the recording medium to become dirty.

SUMMARY

Therefore, an advantage of some aspects of the invention is to prevent a recording medium from becoming dirty in a recording device including an air current generator for moving foreign substances such as ink mist.

According to an aspect of the invention, there is provided a recording device including a base body, an air current generator that is disposed in the base body, and a duct that has an opening and configures an air current flow path formed from the opening to the air current generator. The duct is attachable to and detachable from the base body.

The recording device may further include a filter that is disposed between the opening and the air current generator. Preferably, the filter is attachable to and detachable from the base body.

In the recording device, a configuration may be adopted in which the duct can be detached from the base body prior to the filter.

In the recording device, a configuration may be adopted in which the filter can be detached from the base body prior to the duct.

In the recording device, a configuration may be adopted in which the duct and the filter can be concurrently detached from the base body.

In the recording device, a configuration may be adopted in which the base body has a nozzle forming surface which ejects an ink onto a recording medium, and in which the opening is configured to be flush with the nozzle forming surface.

The recording device may further include a pressure detector that is disposed between the filter and the air current generator.

According to the aspect of the invention, if foreign substances such as ink mist are accumulated in a duct, cleaning or replacement can be performed by detaching the duct from a base body. Therefore, it is possible to prevent a recording medium from becoming dirty due to the foreign substances adhering to the recording medium.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be described with reference to the accompanying drawings, wherein like numbers reference like elements.

FIG. **1** is a schematic side view illustrating a recording device according to Embodiment 1 of the invention.

FIG. **2** is a block diagram of the recording device according to Embodiment 1.

FIG. **3** is a schematic perspective view illustrating a carriage of the recording device according to Embodiment 1.

FIG. **4** is a schematic side view illustrating the carriage of the recording device according to Embodiment 1.

FIG. **5** is a schematic side view illustrating the carriage of the recording device according to Embodiment 1.

FIG. **6** is a schematic plan view illustrating the carriage of the recording device according to Embodiment 1.

FIG. **7** is a schematic front view illustrating the carriage of the recording device according to Embodiment 1.

FIG. **8** is a schematic front cross-sectional view illustrating the carriage of the recording device according to Embodiment 1.

FIG. **9** is a schematic perspective view illustrating a mist collector of the recording device according to Embodiment 1.

FIG. **10** is a schematic perspective view illustrating the mist collector of the recording device according to Embodiment 1.

FIG. **11** is a schematic perspective view illustrating the mist collector of the recording device according to Embodiment 1.

FIG. **12** is a schematic perspective view illustrating the mist collector of the recording device according to Embodiment 1.

FIG. **13** is a schematic perspective view illustrating the mist collector of the recording device according to Embodiment 1.

FIG. **14** is a schematic perspective view illustrating the mist collector of the recording device according to Embodiment 1.

FIG. **15** is a schematic perspective view illustrating a filter of the recording device according to Embodiment 1.

FIG. **16** is a schematic perspective view illustrating the filter of the recording device according to Embodiment 1.

FIG. **17** is a schematic perspective view illustrating a recording device according to Embodiment 2 of the invention.

FIG. **18** is a schematic perspective view illustrating the recording device according to Embodiment 2.

FIG. **19** is a schematic side view illustrating a mist collector of the recording device according to Embodiment 2.

FIGS. **20**A to **20**C are schematic perspective views illustrating the mist collector of the recording device according to Embodiment 2.

DESCRIPTION OF EXEMPLARY EMBODIMENTS

Hereinafter, a recording device according to an embodiment of the invention will be described in detail with reference to the accompanying drawings.

Embodiment 1 (FIGS. **1** to **16**)

First, an overview of a recording device according to Embodiment 1 of the invention will be described.

FIG. **1** is a schematic side view of a recording device **1** according to the present embodiment.

The recording device **1** according to the embodiment includes a support shaft **2** which supports a roll R**1** of a roll-shaped recording medium P for recording. Then, in the recording device **1** according to the embodiment, the support shaft **2** rotates in a rotation direction C when the recording

medium P is transported in a transport direction A. The embodiment employs the roll-type recording medium P wound so that a recording surface thereof faces outward. However, when the roll-type recording medium P wound so that the recording surface faces inward is employed, the roll R1 can be fed by being rotated in a direction opposite to the rotation direction C of the support shaft **2**.

The recording device **1** according to the embodiment employs a roll-type recording medium as the recording medium P. However, the invention is not limited to the recording device which employs the roll-type recording medium as described above. For example, a single sheet-type recording medium may be employed.

The recording device **1** according to the embodiment includes a transport mechanism **7** which has a transport roller pair **8** for transporting the recording medium P in the transport direction A.

A heater (not illustrated) which can heat the recording medium P supported by a medium support section **3** is disposed below the medium support section **3**. In this way, the recording device **1** according to the embodiment includes the heater which can heat the recording medium P from the medium support section **3** side. However, the recording device **1** may include an infrared heater to be disposed at a position opposing the medium support section **3**. In a case of using the infrared heater, a preferred wavelength of infrared rays is 0.76 μm to 1000 μm. In general, infrared rays are classified into near infrared rays, mid-infrared rays, and far infrared rays. Although the classification is defined in various ways, approximate wavelength ranges are respectively 0.78 μm to 2.5 μm, 2.5 μm to 4.0 μm, and 4.0 μm to 1000 μm. Among them, it is preferable to employ the mid-infrared rays.

The recording device **1** according to the embodiment includes a recording mechanism **5** which performs recording by ejecting an ink through nozzles of a nozzle forming surface having multiple nozzles disposed thereon while causing a recording head **4** serving as a recording unit mounted on a carriage **6** to perform reciprocating scanning in a direction B intersecting the transport direction A of the recording medium P.

The carriage **6** according to the embodiment includes a mist collector **25** (refer to FIG. **3**) which collects ink mist generated when the ink is ejected through the recording head **4**. Details thereof will be described later.

A winding shaft **10** which can wind the recording medium P as a roll R**2** is provided on a downstream side of the recording mechanism **5** in the transport direction A of the recording medium P. The embodiment employs the roll-type recording medium P wound so that the recording surface faces outward. Accordingly, when the recording medium P is wound, the winding shaft **10** rotates in the rotation direction C. In contrast, in a case of employing the roll-type recording medium P wound so that the recording surface faces inward, the recording medium P can be wound by being rotated in the direction opposite to the rotation direction C.

A contact portion with the recording medium P is disposed to extend in the direction B, and a tension bar **9** which can provide the recording medium P with desired tension is disposed between an end portion on a downstream side in the transport direction A of the recording medium P in the medium support section **3** and the winding shaft **10**.

Next, an electrical configuration in the recording device **1** according to the embodiment will be described.

FIG. **2** is a block diagram of the recording device **1** according to the embodiment.

A CPU **12** which performs overall control of the recording device **1** is disposed in a controller **11**. The CPU **12** is connected via a system bus **13** to a ROM **14** which stores various control programs executed by the CPU **12** and a RAM **15** which can temporarily store data.

The CPU **12** is connected via the system bus **13** to a head drive unit **17** for driving the recording head **4**.

The CPU **12** is connected via the system bus **13** to a motor drive unit **18** which is connected to a carriage motor **19**, a transport motor **20**, a feeding motor **21**, a winding motor **22**, and a fan motor **16**.

Here, the carriage motor **19** is a motor for moving the carriage **6** having the recording head **4** mounted thereon in the direction B. In addition, the transport motor **20** is a motor for driving a transport roller pair **8** disposed in the transport mechanism **7**. In addition, the feeding motor **21** is a rotary mechanism of the support shaft **2**, and is a motor for driving the support shaft **2** to feed the recording medium P to the transport mechanism **7**. In addition, the winding motor **22** is a drive motor for rotating the winding shaft **10**. Then, the fan motor **16** is a drive motor for rotating a fan **26** (refer to FIG. **3**) of the mist collector **25**.

Furthermore, the CPU **12** is connected via the system bus **13** to an input/output unit **23** which is connected to a PC **24** for transmitting and receiving data and a signal of recording data.

Next, the carriage **6** having the mist collector **25** disposed therein and the mist collector **25** will be described.

FIG. **3** is a schematic perspective view of the carriage **6** according to the embodiment. FIGS. **4** and **5** are schematic side views of the carriage **6** when viewed in respectively different directions. FIG. **6** is a schematic plan view illustrating the carriage **6** according to embodiment. FIG. **7** is a schematic front view of the carriage **6** according to the embodiment. Then, FIG. **8** is a schematic front cross-sectional view of the carriage **6** according to the embodiment.

FIGS. **9** to **11** are schematic perspective views of a mist collector **25***a* according to the embodiment. FIGS. **12** to **14** are schematic perspective views of the mist collector **25***a* according to the embodiment when viewed in a direction different from that in FIGS. **9** to **11**. Then, FIGS. **15** and **16** are schematic perspective views of a filter **27** when viewed in respectively different directions.

As illustrated in FIGS. **3** to **8**, the carriage **6** according to the embodiment has the mist collector **25** (mist collectors **25***a* and **25***b*) disposed in both end portions in the direction B. Both the mist collectors **25***a* and **25***b* have the fan **26** serving as an air current generator, the filter **27** which is attachable to and detachable from a stationary section **32** of the carriage **6** serving as a base body, and a duct **28** which is attachable to and detachable from the stationary section **32**.

FIGS. **3** to **14** illustrate the fan **26** by omitting a blade portion thereof.

As illustrated in FIG. **8**, the mist collectors **25***a* and **25***b* are configured to be capable of generating air current flowing in the direction B inside the duct **28** using a suction force generated by the fan **26**. Then, as illustrated in FIGS. **7** and **8**, the duct **28** has an opening **31** arranged at a position which is flush with a nozzle forming surface F of the recording head **4**, and is configured to be capable of sucking ambient air through the opening **31**. The opening **31** can efficiently suck mist, since a flow path of the duct **28** which is narrowed by the fan **26** increases flow velocity therein.

The mist collectors **25***a* and **25***b* have the same configuration except that shapes of the duct **28** are slightly different from each other.

In the recording device **1** according to the embodiment, the mist collector **25** is disposed in both end portions in the direction B of the carriage **6**. Accordingly, irrespective of where the carriage **6** moves in the direction B, the ambient air can be sucked to a downstream side in the movement direction. Therefore, it is possible to efficiently collect ink mist. However, without being limited to this configuration, a configuration may be adopted in which the mist collector **25** is disposed in any one end in the direction B of the carriage **6**.

The mist collectors **25***a* and **25***b* are configured so that the filter **27** is arranged in the middle of the air current flow path formed from the duct **28** to the fan **26**. Therefore, the filter **27** can collect foreign substances such as ink mist sucked through the opening **31**.

As illustrated in FIGS. **11** and **14**, the filter **27** according to the embodiment is attachable to and detachable from the stationary section **32** by being slid along the transport direction A. Therefore, the foreign substances collected by the filter **27** can be removed by cleaning the filter **27**, and the filter **27** can be easily replaced.

Most of the foreign substances such as the ink mist sucked into the duct **28** through the opening **31** are collected by the filter **27**, but partially adhere to the inside of the duct **28**. As illustrated in FIGS. **10**, **13**, **11**, and **14**, the duct **28** according to the embodiment is attachable to and detachable from the stationary section **32** by being slid along the transport direction A. Therefore, the foreign substances adhering to the duct **28** can be removed by cleaning the duct **28**, and the duct **28** can be easily replaced.

The mist collectors **25***a* and **25***b* are configured to sequentially have the stationary section **32**, the filter **27**, and the duct **28** in the transport direction A, and are configured so that a knob **29** disposed in the filter **27** is visible through a hole **30** disposed in the duct **28**. This configuration enables only the duct **28** to be detached from the stationary section **32** as illustrated in FIGS. **10** and **13**. In addition, the configuration enables the duct **28** and the filter **27** to be concurrently detached from the stationary section **32** as illustrated in FIGS. **11** and **14**.

As described above, the recording device **1** according to the present embodiment has the carriage **6** serving as the base body, the fan **26** serving as the air current generator disposed in the carriage **6**, and the opening **31**, and includes the duct **28** configuring the air current flow path formed from the opening **31** to the fan **26** and the filter **27** disposed between the opening **31** and the fan **26**. Then, the duct **28** is attachable to and detachable from the carriage **6**.

Therefore, the recording device **1** according to the embodiment adopts a configuration in which cleaning or replacement can be performed by detaching the duct **28** from the carriage **6** if the foreign substances such as the ink mist are accumulated in the duct **28**. Accordingly, it is possible to prevent the recording medium P from becoming dirty due to the foreign substances adhering to the recording medium P.

The base body in the recording device **1** according to the embodiment is the carriage **6** including a recording unit (recording head **4**) which performs recording by ejecting the ink, but may be a frame section or an exterior which configures the recording device **1**.

As described above, the filter **27** according to the embodiment is attachable to and detachable from the carriage **6**.

Therefore, in the recording device **1** according to the embodiment, cleaning or replacement can be performed by detaching the filter **27** from the carriage **6** if the foreign substances such as the ink mist are accumulated in the filter **27**.

Accordingly, it is possible to effectively prevent the recording medium P from becoming dirty due to the foreign substances adhering to the recording medium P.

As described above, as illustrated in FIGS. **10** and **13**, the recording device **1** according to the embodiment is configured so that the duct **28** can be detached from the carriage **6** prior to the filter **27**.

Therefore, in the recording device **1** according to the embodiment, the cleaning or the replacement may be performed by detaching only the filter **27** from the carriage **6**, and the cleaning or the replacement is not performed on the duct **28**. In this manner, it is possible to prevent the recording medium P from becoming dirty due to the foreign substances such as the ink mist accumulated in the duct **28** adhering to the recording medium P.

However, a configuration may be adopted in which the duct **28** can be detached from the base body prior to the filter **27** and the filter **27** can be detached from the base body prior to the duct **28**. In addition, a configuration may be adopted in which the duct **28** can be detached from the base body prior to the filter **27** and the duct **28** and the filter **27** can be concurrently detached from the base body. Furthermore, a configuration may be adopted in which the duct **28** can be detached from the base body prior to the filter **27** and the filter **27** can be detached from the base body prior to the duct **28**, and in which the duct **28** and the filter **27** can be concurrently detached from the base body.

On the other hand, a configuration may be adopted in which the filter **27** can be detached from the base body prior to the duct **28**.

According to this configuration, it is possible to improve operability in a configuration in which the filter **27** is more likely to become dirty than the duct **28**, for example, when the cleaning or the replacement has to be performed on the filter **27** within a shorter time as compared to the duct **28**.

In addition, a configuration may be adopted in which the filter **27** can be detached from the base body prior to the duct **28**, and the duct **28** and the filter **27** can be concurrently detached from the base body.

As described above, as illustrated in FIGS. **11** and **14**, the recording device **1** according to the embodiment adopts a configuration in which the duct **28** and the filter **27** can be concurrently detached from the carriage **6**.

Therefore, in the recording device **1** according to the embodiment, operability is improved when the duct **28** and the filter **27** are concurrently detached from the carriage **6**.

As described above, as illustrated in FIGS. **7** and **8**, the carriage **6** according to the embodiment has the nozzle forming surface F for ejecting the ink onto the recording medium P, and the opening **31** is configured to be substantially flush with the nozzle forming surface F. That is, the carriage **6** includes the recording head **4** having the nozzle forming surface F. The nozzle forming surface F of the recording head **4** and the opening **31** of the duct **28** which are disposed together in the carriage **6** are configured to be substantially flush with each other.

Therefore, in a case where air current flowing from the nozzle forming surface F toward the opening **31** is generated when the carriage **6** is moved in the direction B, the air current is prevented from becoming turbulent flow. Accordingly, the recording medium P is prevented from becoming dirty due to the ink mist adhering to the recording medium P. The ink ejection is prevented from becoming poor due to the ink mist adhering to the nozzle forming surface F.

As a configuration in which the nozzle forming surface F of the recording head **4** and the opening **31** of the duct **28** are flush with each other, a configuration may be adopted in which the opening **31** is not flush with the nozzle forming surface F in a strict sense, as in the carriage **6** according to the present embodiment. For example, a configuration may be adopted in which both of these are deviated from each other to such an extent that the air current does not become turbulent flow when the air current flowing from the nozzle forming surface F toward the opening **31** is generated.

There may be further provided a pressure detector between the filter **27** and the fan **26** serving as the air current generator.

The reason is that according to this configuration, a detection result of the pressure detector enables a user to detect whether the user forgets to attach the filter **27** or to detect the replacement time for the filter **27**.

Embodiment 2 (FIGS. **17** to **20**C)

Next, a recording device according to Embodiment 2 will be described in detail with reference to the accompanying drawings.

FIGS. **17** and **18** are schematic perspective views of the recording device **1** according to the embodiment. FIG. **17** illustrates a state where a cover **33** is closed, and FIG. **18** illustrates a state where a filter **36** and a duct **37** which configure one mist collector **34** are detached by opening the cover **33**. In addition, FIG. **19** is a schematic side view of the mist collector **34** according to the embodiment. FIGS. **20**A to **20**C are schematic perspective views of the mist collector **34** according to the embodiment. FIG. **20**A illustrates a state where the filter **36** forms a set with the duct **37**, and FIGS. **20**B and **20**C illustrate a state where the filter **36** is detached from the duct **37**. The same reference numerals are given to configuration members which are the same as those in the above-described embodiment, and detailed description thereof will be omitted.

In the recording device **1** according to the embodiment, the winding shaft **10** and the tension bar **9** are detached in FIGS. **17** and **18**. However, the recording device **1** according to the embodiment has the same configuration as that of the recording device **1** according to Embodiment 1 except that the mist collector **34** is disposed in an exterior **38** of the recording device **1** instead of the mist collector **25** being disposed in the carriage **6**.

As illustrated in FIG. **17**, in the recording device **1** according to the embodiment, four mist collectors **34** are disposed in the exterior **38** along the direction B. All of these mist collectors **34** have the same configuration, and have a fan **35** fixed to the exterior **38** serving as a base body, and the filter **36** and the duct **37** which are attachable to and detachable from the exterior **38**.

The filter **36** and the duct **37** according to the embodiment are attachable to and detachable from the recording device **1** as illustrated in FIGS. **18** and **19** in a state where the filter **36** forms a set with the duct **37** as illustrated in FIG. **20**A.

As illustrated in FIGS. **20**A to **20**C, similarly to the duct **28**, the duct **37** has an opening **39**, and is configured so that a suction force generated by the fan **35** can suck the ambient air through the opening **39**. Then, as illustrated in FIG. **19**, the filter **36** is arranged between the opening **39** and the fan **35** in an air current flow path formed in a direction E where the suction force generated by the fan **35** generates air current inside the duct **35**.

According to this configuration, similarly to the recording device **1** of Embodiment 1, the recording device **1** of the embodiment can prevent the recording medium P from becoming dirty due to foreign substances such as ink mist adhering to the recording medium P.

The invention is not limited to the above-described embodiments, and can be modified in various ways within the scope of the invention described herein. As a matter of course, the modifications are also included in the scope of the invention.

For example, in both the recording devices **1** according to Embodiment 1 and Embodiment 2, the filter is disposed in the mist collector, but the recording device may be configured so as not to include the filter.

Hitherto, the invention has been described in detail with reference to the specific embodiments. Here, the outline of the invention will be described again.

The recording device **1** according to an aspect of the invention has base bodies **6** and **38**, the air current generators **26** and **35** which are disposed in the base bodies **6** and **38**, and openings **31** and **39**, and includes the ducts **28** and **37** which configure the air current flow paths formed from the openings **31** and **39** to the air current generators **26** and **35**. The ducts **28** and **37** are attachable to and detachable from the base bodies **6** and **38**.

Here, the meaning of the "base body" also includes the carriage provided with the recording unit for performing recording by ejecting the ink in addition to the frame section or the exterior which configures the recording device **1**.

In this case, the ducts **28** and **37** are attachable to and detachable from the base bodies **6** and **38**.

Therefore, cleaning or replacement can be performed by detaching the ducts **28** and **37** from the base bodies **6** and **38** if foreign substances such as ink mist are accumulated in the ducts **28** and **37**. Accordingly, it is possible to prevent the recording medium P from becoming dirty due to the foreign substances adhering to the recording medium P.

The recording device **1** according to the aspect of the invention includes the filters **27** and **36** which are disposed between the openings **31** and **39** and the air current generators **26** and **35**. The filters **27** and **36** are attachable to and detachable from the base bodies **6** and **38**.

In this case, the filters **27** and **36** are attachable to and detachable from the base bodies **6** and **38**. Therefore, cleaning or replacement can be performed by detaching the filters **27** and **36** from the base bodies **6** and **38** if foreign substances such as ink mist are accumulated in the filters **27** and **36**. Accordingly, it is possible to effectively prevent the recording medium P from becoming dirty due to the foreign substances adhering to the recording medium P.

The recording device **1** according to the aspect of the invention adopts a configuration in which the ducts **28** and **37** can be detached from the base bodies **6** and **38** prior to the filters **27** and **36**.

In this case, a configuration is adopted in which the ducts **28** and **37** can be detached from the base bodies **6** and **38** prior to the filters **27** and **36**. Accordingly, cleaning or replacement is performed by detaching only the filters **27** and **36** from the base bodies **6** and **38**, and the cleaning or the replacement is not performed on the ducts **28** and **37**. In this manner, it is possible to prevent the recording medium P from becoming dirty due to the foreign substances such as the ink mist accumulated in the ducts **28** and **37** adhering to the recording medium P.

The recording device **1** according to the aspect of the invention adopts a configuration in which the filters **27** and **36** can be detached from the base bodies **6** and **38** prior to the ducts **28** and **37**.

In this case, a configuration is adopted in which the filters **27** and **36** can be detached from the base bodies **6** and **38**

prior to the ducts **28** and **37**. Therefore, it is possible to improve operability in a configuration in which the filters **27** and **36** are more likely to become dirty than the ducts **28** and **37**, when the cleaning or the replacement has to be performed on the filters **27** and **36** within a shorter time as compared to the ducts **28** and **37**.

The recording device **1** according to the aspect of the invention adopts a configuration in which the ducts **28** and **37** and the filters **27** and **36** can be concurrently detached from the base bodies **6** and **38**.

In this case, a configuration is adopted in which the ducts **28** and **37** and the filters **27** and **36** can be concurrently detached from the base bodies **6** and **38**. Therefore, it is possible to improve operability when the ducts **28** and **37** and the filters **27** and **36** are concurrently detached from the base bodies **6** and **38**.

The recording device **1** according to the aspect of the invention adopts a configuration in which the base body **6** has the nozzle forming surface F for ejecting the ink onto the recording medium P and the opening **31** is flush with the nozzle forming surface F.

In this case, a configuration is adopted in which the opening **31** is flush with the nozzle forming surface F. That is, the base body **6** includes the recording unit **4** having the nozzle forming surface F. The nozzle forming surface F of the recording unit **4** and the opening **31** of the duct **28** which are disposed together in the base body **6** are configured to be flush with each other. Therefore, when air current flowing from the nozzle forming surface F toward the opening **31** is generated, it is possible to prevent the air current from becoming turbulent flow. Accordingly, it is possible to prevent the recording medium P from becoming dirty due to the ink mist adhering to the recording medium P. It is possible to prevent the ink ejection from becoming poor due to the ink mist adhering to the nozzle forming surface F.

The meaning of "the opening **31** is configured to be flush with the nozzle forming surface F" includes not only a configuration in which the opening **31** is flush with the nozzle forming surface F in a strict sense, but also a configuration in which both of these are deviated from each other to such an extent that the air current does not become turbulent flow when the air current flowing from the nozzle forming surface F toward the opening **31** is generated.

The recording device **1** according to the aspect of the invention includes the pressure detector between the filters **27** and **36** and the air current generators **26** and **35**.

In this case, there is provided the pressure detector between the filters **27** and **36** and the air current generators **26** and **35**. The detection result of the pressure detector enables a user to detect whether the user forgets to attach the filters **27** and **36** or to detect the replacement time for the filters **27** and **36**.

The entire disclosure of Japanese Patent Application No. 2014-057879, filed Mar. 20, 2014 is expressly incorporated reference herein

What is claimed is:

1. A recording device comprising:

a reciprocating base body;

an air current generator that is disposed in the base body and attachable to and detachable from the base body; and

a duct that has an opening and configures an air current flow path formed from the opening to the air current generator,

wherein the duct is slidably attachable to and detachable from the base body independently from attachment and detachment of the air current generator and with a position of the air current generator coupled to the base body being the same with the duct attached and detached.

2. The recording device according to claim **1**, further comprising:

a filter that is disposed between the opening and the air current generator,

wherein the filter is attachable to and detachable from the base body.

3. The recording device according to claim **2**,

wherein the duct can be detached from the base body while the filter is positioned adjacent the air current generator.

4. The recording device according to claim **2**,

wherein the filter can be detached from the base body while the duct is mounted to the base body.

5. The recording device according to claim **2**,

wherein the duct and the filter can be concurrently detached from the base body.

6. The recording device according to claim **1**,

wherein the base body has a nozzle forming surface which ejects an ink onto a recording medium, and

wherein the opening is positioned relative to the nozzle forming surface to prevent air current from the nozzle forming surface to the opening becoming turbulent flow.

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